Chapter 1 Proposed Project

1.1 Introduction

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The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) propose to improve a 26.0-kilometer (km), or 16.1-mile (mi) segment of US 101, generally from the City of Novato (in Marin County) northward to the City of Petaluma (in Sonoma County) (see Figure 1-1). The improvements involve, among other upgrades, constructing High Occupancy Vehicle (HOV) lanes, widening and realigning portions of the roadway, construction of new interchanges, upgrading drainage systems, and construction of new frontage roads and bikeways. At the southern end of the project boundary, which starts 0.5 km (0.3 mi) south of the junction of US 101 and State Route (SR) 37 in the City of Novato, US 101 is a six-lane freeway. In the central portion of the project corridor, US 101 narrows to a four-lane expressway with multiple access points from neighboring properties. The roadway then transitions to a fourlane freeway. The northern end of the project boundary is 0.5 km (0.3 mi) north of the Corona Road Overcrossing in the City of Petaluma (see Figure 1-2). The narrowing of the freeway to an expressway, which extends for 13.1 km (8.1 mi) and is locally known as the "Narrows," creates a traffic bottleneck and worsens bottlenecks further north and south of the project boundaries.² In addition, the multiple access points in the narrow expressway section result in vehicles are entering and exiting US 101, which further impedes steady traffic flow.

Prior to preparing this Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/S), Caltrans completed a draft Major Investment Study (MIS)³ in May 2000, which discusses a range of alternatives to relieve congestion in the US 101 North Bay Corridor. Subsequently, Caltrans' local partners, the Transportation Authority of Marin (TAM) and the Sonoma County

High Occupancy Vehicle lanes, often called carpool lanes, are intended for use by vehicles with two or more passengers, motorcycles, or clean air vehicles during peak commute hours.

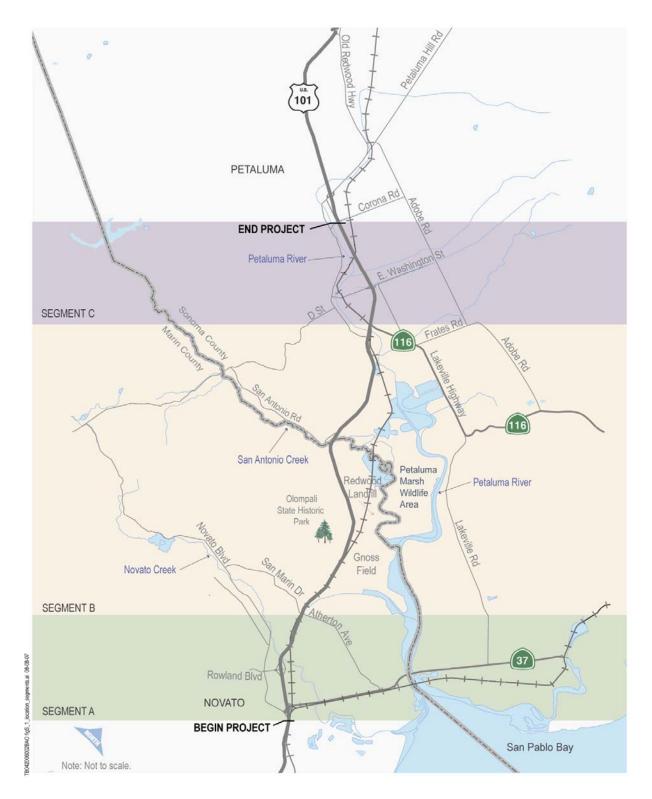
² A "bottleneck" refers to a section of roadway where the traffic demand exceeds the roadway's capacity. Traffic flowing through the bottleneck section operates at capacity and is relatively smooth flowing with average speeds ranging from 35 to 52 miles/hour. Congestion and backups, or queuing, occurs upstream of the bottleneck.

³ The MIS is an internal informational document prepared by Caltrans in anticipation of requests for federal funding under ISTEA (1991). Public review was not required. The MIS is no longer a federal requirement, under TEA-21 (1998).

Figure 1-1 Vicinity Map



Figure 1-2 Location Map and Project Segments



Transportation Authority (SCTA) requested that Caltrans conduct more detailed "Project Study Reports" (PSRs) to assist with programming and funding improvements in this corridor. Three PSRs covering the approximate boundaries of the three segments evaluated in this FEIR/S were produced. The PSRs investigated widening the existing facility for additional lanes (including mixed flow and HOV); installing median barriers, widening interchange ramps; installing ramp metering equipment; adding new interchanges; standardizing travel lanes, median widths, and shoulders; standardizing horizontal and vertical curves; existing operational deficiencies; constructing frontage roads; and widening bridges.

Each of the project segments has independent utility, meaning that operational improvements can be implemented within each segment and completion of other projects would not be required in order to realize the operational benefits of the proposed improvements. Also, each project has logical starting and ending points or termini. Caltrans, TAM, and SCTA collectively decided to combine these three segments in this FEIR/S to provide more operational consistency in this interregional corridor. Consequently, it follows that the MSN Project boundary established by the combined segments has logical termini and independent utility.⁴

1.2 Project Need and Purpose

US 101 is a crucial link for commuters and commerce, connecting the vital business centers of San Francisco and the East Bay with Marin, Sonoma, and the North Coast. As the only continuous north/south roadway serving Marin and Sonoma counties and their main cities and towns, US 101 serves long-distance interregional travelers, as well as shorter, inter- and intra-city travelers. The narrowing of the freeway to a four-lane expressway in an area known locally as the "Narrows," constricts travel and results in local congestion and delays. The Narrows portion has historically served neighboring property owners. As a result, there are multiple points where vehicles can enter or exit US 101 along this

The southern boundary is set at the end of the HOV system in Marin County, just south of the SR 37 Interchange. The northern boundary is set to just north of Corona Overcrossing in Sonoma County. Extending an HOV lane further north would cause weaving movements for traffic approaching the Old Redwood Highway Interchange ramps, primarily due to an existing horizontal curve just south of this interchange. Thus, the northern terminus was selected to avoid this maneuver and to ensure a smooth transition from the HOV lane to the existing mainline, in accordance with Caltrans design standards.

segment that further impedes traffic flow. Projected growth of population, housing, the tourism industry, and goods movement along the US 101 corridor all point to even lengthier delays in the future. The existing facility within the expressway segment does not contain pull-out areas for disabled vehicles or other emergency purposes. In addition, disabled vehicles and traffic subject to changing conditions during peak periods are more difficult for motorists to anticipate due to existing roadway's horizontal curves (turning radii) and vertical curves (rates of incline and decline). In short, existing and future congestion and delays are serious problems facing travelers along US 101. The following sections further explain the existing needs in this stretch of US 101.

1.2.1 Need to Address Existing Congestion

Over the last 15 years, significant commercial and residential growth, along with growth in tourism, has led to severe traffic increases along the corridor. It is natural to expect that the number of miles traveled would have increased because of growth in population and employment. However, when the number of miles traveled *by person* is considered, the miles per day driven by each individual climbed from approximately 27 miles to approximately 33 miles. Therefore, not only are there more individuals driving, they are driving more (Marin Economic Commission, November 2007). In Sonoma County, these same trends have been observed. In addition to the traditional components of growth (e.g., jobs and housing), Sonoma County tourism is a \$1 billion industry and accounts for 6 percent of the County's workforce (Sonoma County Economic Development Board, January 2007). The growth in the tourism industry associated with wine and special event industries has contributed to the substantial increase in weekend travel along US 101 (Sonoma County, 2006).

Given the above forces contributing to travel demand, it is not unexpected that traffic congestion and delay⁵ along US 101 have continued to escalate. There is an upward trend in vehicle hours of delay (VHD) in the Bay Area that is more pronounced in Marin and Sonoma counties. For instance, VHD increased in the

Marin-Sonoma Narrows HOV Widening Project FEIR/S

⁵ Vehicles traveling freely, without impedances, experience no delay and enjoy "free flow" travel time through a road segment. "Vehicle delay" refers to additional travel time over free flow travel time experienced by a motorist through the same road segment. Daily vehicle hours of delay refers to the accumulated hours of delay (additional travel time over free flow conditions) experienced by motorists over the course of a day.

Bay Area by 30 percent between 2004 and 2007. In Marin during this same period, VHD increased by 51 percent and by 49 percent in Sonoma.

More recently, the monitoring data shows that from 2007-2008 VHD was reduced, attributable to the economic downturn. Despite decreases of 12 percent for the Bay Area and 20 percent in Sonoma County, Marin County recorded a 3 percent increase (Figure S-2).

These decreases mute the effect of three major segments of the MSN Project limits that were among the top 50 most congested freeway locations in 2008 according to MTC.

In the morning (in the southbound direction), traffic backs up from East Washington to Kastania. In this location, daily vehicle hours of delay total

1880 hours and congestion lasts from about 5:35 A.M. to 8:20 A.M. This was No. 21 among the top 50 most congested locations in the Bay Area in 2008.

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In the morning (in the southbound direction), traffic backs up from around Lincoln Avenue in San Rafael (south of the project boundaries) as far north as Rowland Boulevard in the City of Novato. This bottleneck caused 6,770 hours of delay in 2008 and became No. 2 in the regional top 10 congestion delays.

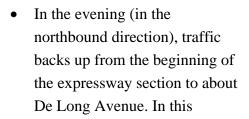
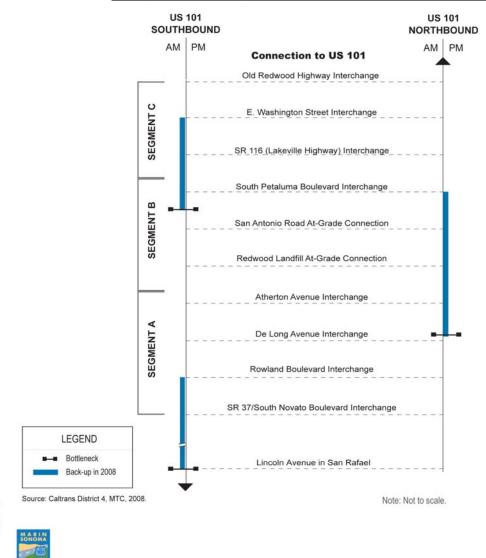


Figure 1-3 Change in Vehicles Hours of Delay on Freeway 60% 50% 40% 30% 20% 10% 0% -10% -20% Marin 2004 - 2008 Marin 2007 - 2008 Sonoma 2004 - 2008 Sonoma 2007 - 2008 Bay Area 2004 - 2008 Bay Area 2007 - 2008

Figure 1-4 2008 Bottlenecks and Delays in MSN Project Corridor

Bottlenecks Among Top 50 Peak-Period Congested Locations				
RANK	LOCATION	2008 DAILY (WEEKDAY) VHD		
#2	Southbound AM - North of Route 37 to South of Lincoln Avenue	6,770		
#21	Southbound AM - East Washington Street to Kastania Road	1,880		
#47	Nothbound PM - De Long Avenue to South of Petaluma	960		



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location, daily vehicle hours of delay total 960 hours and the congestion lasts from about 3:20 P.M. to 6:25 P.M. This bottleneck was No. 47 among the top 50 most congested locations in the Bay Area in 2008.

The above findings of delay and queues were based on Caltrans' 2008 congestion monitoring studies that showed regular delays occur within the study limits during the A.M. peak traffic period on southbound US 101 and during the P.M. peak traffic period on northbound US 101. Southbound traffic congestion within the study limits typically occurs between 6:30 and 9:30 A.M. in Marin County and between 5:30 and 8:30 A.M. in Sonoma County. Northbound traffic congestion generally develops between 3:00 and 6:30 P.M. primarily in Marin County. These studies by Caltrans indicate that traffic demands for some study area roadway sections are either at, or exceed their existing capacities during peak demand periods.

Despite the economic downturn, the Bay Area, Marin, and Sonoma counties have experienced increases in VHD of 15, 55, and 19 percent, respectively, between 2004 and 2008 (Figure S-2). Reported decreases in VHD have been attributed to lowered employment (California Employment Development Department, Caltrans, MTC, Vehicle Hours of Delay vs. Employment San Francisco Bay Area, 1999-2008). The strong relationship between employment and VHD is evidence that congestion reduction would be even more dire once the economy and employment rebound.

1.2.2 Need to Anticipate Future Congestion

Projections for Marin County show continued increases in daily vehicle miles per capita, from about 33 miles per day in 2005 to about 38 miles per day in 2020 (Marin Economic Commission, November 2005). Added to Marin County residents' own travel patterns, a growing percentage of Marin's work force is projected to be Sonoma County residents. According to the study by the Marin Economic Commission, 12 percent of Marin's work force in 1990 was from Sonoma; by 2000, it was 15 percent; and by 2020, it is projected to exceed 17 percent. Thus, the travel demand in the southbound direction in the A.M. peak period is expected to grow. Notably, Sonoma County in its General Plan update is forecasting an increasing travel demand in the northbound direction in the A.M. period (Sonoma County, 2006). A major contributor to this travel demand in the "reverse" direction is linked to Sonoma's expanding tourism industry.

Specifically, the County's wine industry is expected to grow substantially because of increased sales abroad and expanding consumer interest. It is anticipated that most of the new jobs over the next few years will be in tourism and business services (The Press Democrat, June 17, 2005). These travel, commute, and local growth trends all point to continued reliance on US 101 for commuting, commerce, and recreation.

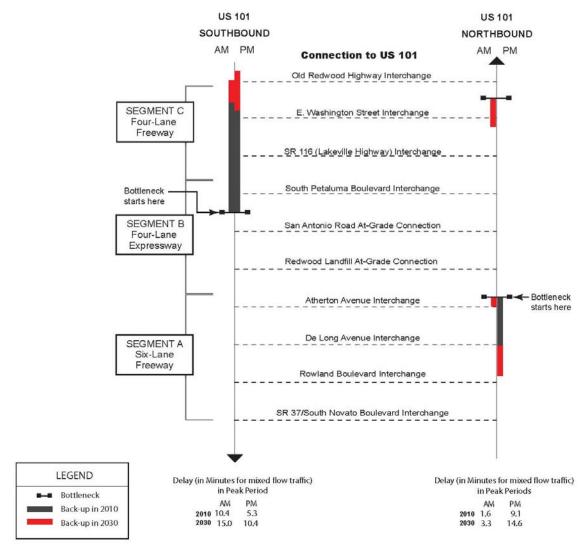
To better assess how these future conditions would affect congestion and delays on US 101, particularly in the project area, the Caltrans District 4 Modeling and Forecasting Unit prepared traffic forecasts for the years 2010 and 2030 (Caltrans, Office of Highway Operations, February 2005). The only changes that were assumed to the existing street and freeway system are those projects that are programmed, or that congestion management agencies expect to be funded. These projects are included in MTC's Regional Transportation Plan.

Figure 1-5 shows the projected travel delays in 2010 and 2030, indicating that congestion would worsen over the next 20 years. For both southbound and northbound directions, and for both the A.M. and the P.M. peak hour, delays experienced by individual drivers are expected to increase by 50 percent to 100 percent. Under all scenarios investigated, the four-lane expressway segment would continue to be the principal bottleneck location. It should be noted that peak hour analyses do not account for congestion accumulated during previous hours. The calculated delays for these future years reflect only operations from a peak-hour demand, assuming free flow conditions during preceding hours. Traffic congestion over a cumulative multi-hour peak period would be higher than indicated by the peak hour analysis. Consequently, the results cannot be directly compared to the existing observed travel times and delays presented in Figure 1-4.

Key conclusions from the Caltrans Traffic Operations Analysis Report (2005) are:

- In the southbound direction during the A.M. peak hour, queues in 2010 would extend from the expressway back to East Washington Avenue and in 2030 queues would extend nearly to Old Redwood Highway.
- Although the southbound direction in the A.M. peak hour is recognized to be
 the predominant travel direction, it is noteworthy that the expressway portion
 also becomes a bottleneck for southbound travel in the P.M. peak hour.
 Queues in 2010 in the P.M. would extend back to East Washington Avenue,

Figure 1-5 Year 2010 and 2030 Bottlenecks and Delays in MSN Project Corridor



Source: Caltrans District 4, Office of Highway Operations, 2003.

MARIN SONOMA NAZROWS

Note: Not to scale.

- similar to the A.M. period. However, by 2030, the queues would extend past Old Redwood Highway.
 - No queues would form in 2010 in the northbound direction in the A.M. and delays would be less than two minutes. However, by 2030, queues would extend from the expressway back to the Atherton interchange.
 - In the northbound direction in the P.M. peak hour, queues in 2010 would extend from the expressway back to the Atherton interchange. By 2030, the queues would have grown to past the De Long Avenue interchange.

Highway Design Manual Section 103.2

Caltrans Highway Design Manual Section 103.2 states that, "Geometric design of new facilities and reconstruction projects," such as Marin Sonoma Narrows Project, "should normally be based on estimated traffic 20 years after completion of construction. With justification, design periods to other than 20 years may be approved by the District Director with concurrence by the Design Coordinator."

As a policy, Caltrans District 4 adheres to the 20-year design period in the preparation of traffic analyses. The Route 101 Marin-Sonoma Narrows Widening Project Traffic Operational Analysis Report (February 2005) assumed that the project would be constructed by 2010, therefore, traffic operations were projected to the year 2030.

Caltrans has stated that the availability of funding for construction of the entire project at one time is unlikely. The Project Development Team now estimates that Phase 1 of the MSN Project will begin in fiscal year 2010/2011 and be completed in fiscal year 2013/2014. Project phases are described in Section S.14, and funding is more thoroughly discussed in Section 2.4.

It is estimated that Phase 2, which would construct the remainder of the project, could begin in fiscal year 2015/2016 and end in 2018/2019, however, this is primarily dependent upon availability of funding. Because funds have not yet been committed for Phase 2, an operational analysis projected to 2039 would be highly speculative. Therefore, Caltrans plans to update the MSN Project traffic analysis during PS&E for Phase 2 to make sure it adheres to the 20-year design policy when a construction schedule is more certain.

In the meantime Caltrans has prepared the following analysis to demonstrate that the MSN Project meets the 20-year design year criteria for Phase 1.

Figure 1-6, on page 1-13, shows the total population, total households, total employed residents, and total employment in Sonoma and Marin Counties based upon two different land use projections: one is the Associated Bay Area Governments (ABAG) projections from 2002, upon which the Marin-Sonoma Narrows traffic analysis was based; the other is the same information from the ABAG 2007 projections.

The changes in land use over time are the major cause of changes in the amount of travel over time. Additional residents, jobs, and services in an area will cause additional traffic volumes. As expected, the projections demonstrate a general increase in population, households, employed residents and employment over time between 2002 and 2007 in Sonoma and Marin Counties. One would also generally expect that the 2034 projections based upon 2007 data would be greater than the 2030 projections based upon 2002 assumptions; however, the opposite appears to be true. As can be seen in Figure 1-6, the ABAG 2002 projections are greater than ABAG 2007 projections.

Based upon this analysis, Caltrans is confident that the overestimates in the 2002 projection support the 20-year design period forecast to 2034 for Phase 1, and that the project adheres to Section 103.2 of the Highway Design Manual.

1.2.3 Need to Improve Highway Operations

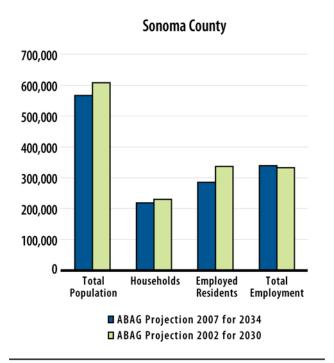
Various design features of US 101 within the project boundaries contribute to interruptions in traffic flow and congestion. The need to alleviate congestion by upgrading Segment B from expressway to freeway standards would allow Caltrans and FHWA to also correct features that are below Caltrans' current operational standards. In effect, Caltrans and FHWA would upgrade the expressway portion of the corridor to an access-controlled freeway. Other design features that would be addressed throughout the project boundaries include narrow shoulder widths and nonstandard horizontal and vertical curvatures.

Uncontrolled At-Grade Points of Entry and Exit

Along the Novato Narrows, where US 101 crosses the Marin/Sonoma County line, motorists can enter and exit US 101 via non-signalized, at-grade intersections, or driveways on both sides of the expressway. Table 1-1 identifies the location of each of these at-grade road connections and Figure 1-7 illustrates two of these connections.

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Figure 1-6 Sonoma and Marin Counties ABAG Projections



Marin County 350,000 250,000 250,000 150,000 Total Households Employed Total Employment ABAG Projection 2007 for 2034 BABAG Projection 2002 for 2030

Source: ABAG 2002, 2007 Land Use Assumptions

Figure 1-7 Access Problems in the MSN Project Central Segment



Aerial view of open median



At-grade connection to US 101



At-grade connection to US 101

Table 1-1 At-Grade Connections to US 101 in the MSN Project Area

Connecting Road	Location KP (PM)	Connection
Olompali State Park Entrance Ramp	MRN-101-39.4 (24.48)	Southbound
Olompali State Park Exit Ramp	MRN-101-39.5 (24.53)	Southbound
Redwood Sanitary Landfill Road	MRN-101-40.9 (25.44)	Northbound/Southbound
San Antonio Road	MRN-101-43.3 (26.90)	Southbound
San Antonio Road	SON-101-0.30 (0.19)	Southbound
Kastania Road	SON-101-2.9 (1.80)	Southbound
Kastania Road	SON-101-3.6 (2.232)	Southbound

Source: Caltrans District 2, Office of Traffic Management, Transportation Management Plan Data Sheet, October 25, 2005.

During the 1950s, these at-grade intersections and driveways functioned adequately and provided access to the agricultural and residential land uses that dominate this segment. However, given the volumes of daily traffic passing through this Central Segment, local traffic needs are no longer well served. Congested commuter traffic conflicts with cars entering and exiting from these atgrade connections.

In addition, the current at-grade open medians provide the only direct means to cross US 101 in the Central Segment. The South Petaluma Boulevard Undercrossing and paved open medians at San Antonio Road and Kastania Road provide the only public means for motorists to cross the 13.1-km (8.1-mi) expressway segment (that is, to get to the west side from the east side or vice versa). Motorists' ability to use the open medians is hampered by congestion and aggravated by inadequate sight distance (see Figure 1-7). The alternative to using the open medians that is often chosen by residents is to travel northbound, up to seven miles, to the South Petaluma Boulevard Undercrossing to be able to then go southbound for routine tasks such as picking up their mail at residential postal boxes on the opposite side of the expressway. This is a 32-km (20-mi) roundtrip in some cases.

Until recently, Redwood Landfill Trucks used a paved open median at Sanitary Landfill Road to cross US 101 from the east side of the expressway to proceed to southbound routes. An approved expansion of their operations indicated that these crossings would become increasingly hazardous due to high traffic volumes, a problem the landfill operators solved by constructing a private overcrossing.

There is currently no northbound access to Olompali State Historic Park (SHP) along the Novato Narrows, except to follow the much longer route that residents do to access their postal boxes on the opposite side of the expressway. Access to the Gas 'N' Shop on Kastania Road is also dependent upon motorists' ability to cross the expressway from northbound lanes.

Other land uses and businesses in the project area includes Birkenstock®, Gnoss Field Marin County Airport, Buck Institute, Mira Monte Marina, Petaluma Marsh Wildlife Preserve, Equine Veterinarian Hospital, Marin Municipal Water District, North Marin Water District, Sonoma County Water Agency, and others.

Narrow Roadway Shoulders

Standard roadway shoulders would provide adequate pull-out areas for disabled vehicles and improve maneuverability by emergency service vehicles. Caltrans requires that shoulders on the outside of travel lanes be at least 3.0 m (10 ft) to accommodate these safety considerations. However, in the southern portion of the MSN Project in the City of Novato, outside and inside shoulder widths of 2.4 m (8 ft) and 1.5 m (5 ft) do not meet these standards. In addition, in the expressway section of the project corridor, existing shoulder widths range between 0.6 m (2 ft) and 2.4 m (8 ft).

Nonstandard Roadway Curves

Incorporating Caltrans standard vertical (rates of incline and decline) and horizontal (turning radii) roadway curves would provide motorists with increased sight distance to look ahead and prepare for hazards or changing traffic conditions (e.g., bottlenecks or accidents). Roadway curves would also allow motorists to maintain a more consistent speed under clear traffic conditions. At Redwood Landfill Road in the Central Segment of the project, vertical curves currently provide 120 m (400 ft) of stopping sight distance compared to the standard 400 m (1,310 ft). South of San Antonio Creek, horizontal curves provide 160 m (525 ft) of horizontal sight distance compared to the standard 220 m (720 ft) (see Table 1-2).

Table 1-2 Vertical and Horizontal Sight Distance Deficiencies in the MSN Project Area

Feature	Existing Conditions	Standard		
Vertical Sight Distance at Sanitary Landfill Road				
Curve Length	120 m (400 ft)	400 m (1,310 ft)		
Grade Entering	1.89%	1.89%		
Grade Exiting	5.12%	5.12%		
Design speed	75 km/h (47 mph)	110 km/h (68 mph)		
Horizontal Sight Distance South of San Antonio Creek				
Sight Distance	160 m (525 ft)	220 m (720 ft)		
Curve Radius	900 m (3,000 ft)	900 m (3,000 ft)		
Design Speed	95 km/h (59 mph)	110 km/h (68 mph)		
Source: Sean Charles, PE and Caltrans Highway Design Manual, Fifth Edition. Caltrans District 3 North				

Source: Sean Charles, PE and Caltrans Highway Design Manual, Fifth Edition. Caltrans District 3 North Region presentation to Policy Advisory Group on Design Standards, May 17, 2002.

Other locations along the MSN Project corridor with nonstandard curves occur in the vicinity of Gambini Road, Kastania Road, South Petaluma Boulevard, and the North Petaluma Overhead.

- 1.2.4 Need to Address Drainage Problems and Recurring Flood Hazards Caltrans hydraulics staff have conducted interviews with local public works, water, and maintenance staff and visually reviewed the size and condition of the drainage facilities in the MSN Project area. Excluding the bridges, a total of 181 existing drainage crossings were surveyed. There are several areas where high runoff volumes result in localized flooding and can contribute to erosion problems. The following areas were identified by Caltrans as needing improvements to address drainage concerns:
 - **Birkenstock Area.** At the southern end of Segment B in Marin County, commercial development on the western side of US 101 has resulted in substantial increased runoff. Local attempts to remedy this condition have included redirecting some of the natural channels in the area, which in turn has caused occasional flooding at several locations along US 101 where existing culverts are undersized and cannot efficiently handle the increased flows. Consequently, the northerly intersection of old San Antonio Road has historically overtopped during large storm events, becoming an ongoing maintenance problem.

- San Antonio Creek Area. Flooding occurs on US 101 just north of the Marin/Sonoma county line in Segment B. This condition results from either infrequent, large-volume flows in San Antonio Creek or more frequent, but less intense, storms that cause local runoff to concentrate at the northerly intersection of San Antonio Road. In general, the flooding is primarily the result of inadequate highway drainage facilities.
- **Petaluma Urban Area.** Localized flooding has historically been a problem in the City of Petaluma, especially in the region westward from US 101 to the Petaluma River. However, there are a number of creeks and tributaries on the east side of US 101 that drain the east side of the city, as well as to US 101. The stormwaters must then be conveyed to the west under the freeway.

1.2.5 Need to Serve Goods Movement

In December 2004, MTC completed the Regional Goods Movement Study for the San Francisco Bay Area. The study was updated in February 2009 with the Goods Movement Initiatives. That study described the growing importance of ensuring quick and efficient goods movement to maintain the region's economic vitality. As reported by MTC, goods movement in the Bay Area can be thought of as serving three primary markets or functions: local distribution/pickup/delivery and service markets; long haul domestic trade markets; and international trade. A primary function of goods movement in the Bay Area is to support households and commercial establishments. Much of the local goods movement is putting consumer goods on the shelves of retail stores, or in offices and service businesses throughout the region.

Expected increases in population and a resurgent economy will contribute to increased truck movement throughout the region, especially near the Bay Area's major airports and seaports. In terms of volume, more than 80 percent of the goods movement in the Bay Area involves trucking in several major corridors: Interstates 80, 580, and 880, and US 101, according to the MTC study. Both congestion of key freight routes and the reliability of trip times have become major concerns for those that move freight within, into and out of the Bay Area. The existing and future congestion identified earlier in this chapter for the US 101 corridor in Marin and Sonoma counties contributes to the escalating costs of moving freight in the region.

Trucks contribute to the existing congestion along US 101 because they use more capacity per vehicle than autos. In 2006, annual average daily trips in the MSN Project area were at a high of about 155,000 trips around the SR 37 junction to around 90,000 trips in Petaluma around Old Redwood Highway. Trucks accounted for 4.1 percent to 5.7 percent of these trips (Caltrans, December 2007). In the past this was less of a problem than it is today, because trucks could avoid the periods of peak congestion, since most of their pickups and deliveries occur during business hours. However, as described earlier, peak periods now extend over three hours in the A.M. and P.M., making it difficult to avoid peak periods of congestion. The Regional Goods Movement Study identifies poor reliability due to incident-related delays as a fact of life in many goods-movement corridors.

Because US 101 serves as a major corridor for goods movement, there is a need to improve US 101 capacity and operations in the MSN Project area.

1.2.6 Need to Meet Public Demand for Transportation Improvements According to Bay Area residents, transportation is the most important problem facing the region, with 35 percent of residents identifying it as the region's top concern in the 2006 Bay Area Council Poll of 600 residents (February 23, 2006 press release). Notably, 54 percent of those in the North Bay counties of Marin, Sonoma, Napa and Solano said traffic was their biggest problem. In recognition of this challenge, Sonoma County elected to direct local funds, including portions of its local sales tax measure (Measure M) passed in 2004, to support improvements in this portion of the US 101 corridor. A chief directive by the local voters in the passage of this tax initiative was to improve mobility and reduce local congestion for everyone who lives or works in the counties by providing a variety of high quality transportation options designed to meet local needs.

The support shown by SCTA and TAM, in part, resulted in the recommendation by the MTC to include this project as one of the improvements that would enhance connectivity and safety. As a result, the MSN Project has been awarded funding through the Corridor Mobility Improvement Account of the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 (Proposition 1B) that was passed by the California voters in the November 2006 election. The overwhelming support for Proposition 1B comes from the voters' frustration with traffic delays and with high expectations that Caltrans and its

local partners will deliver these projects as expeditiously and efficiently as 405 possible. 406 407 In recognition of these needs demonstrated above, Caltrans seeks to: Reduce congestion along US 101; 408 Correct operational deficiencies that nonstandard horizontal and vertical 409 curves and narrow shoulders present, particularly during peak travel demand; 410 Improve mobility for motorists who use US 101 for home-to-work trips, 411 412 goods movement, tourist, and recreational purposes; and 413 Correct existing drainage and flood hazards and reduce future drainage problems. 414